ABSTRACT

Background

The transfusion transmitted emerging infectious agents has become a real threat to the transfusion safety. Human parvovirus B19 is one of the common viral infection worldwide with a potential threat of transfusion transmission through blood and its products particularly affecting the high risk groups. Introduction of screening test for detecting Human parvovirus B19 antibodies for blood donors needs further evaluation for its potential risk and cost effectiveness.

Aim

To find out the seroprevalence of Human parvovirus B19 among voluntary blood donors in Chennai.

Materials and Methods

106 blood samples from voluntary blood donors were collected in one year period from July 2015 to June 2016 and were subjected to IgM and IgG serological tests using NovaLisa Human parvovirus B19 ELISA kits. Data analysis was done using SPSS software and Chi-square test was used to find statistical significance.

Results

Among 106 voluntary blood donors, 44.3% of the donors were positive for anti-B19V IgG and none were positive for anti-B19V IgM. There was a statistically significant difference (p=0.018) in IgG positivity among different age group. Percentage of IgG B19V seropositivity gradually increases along with increase in age of the donors. Statistically significant difference (p=0.001) in IgG positivity in different socioeconomic groups affecting lower socioeconomic group more than the middle and higher groups. There was a statistically significant difference (p=0.019) in IgG positivity during different months in a year. Among 47 donors positive for IgG B19V, one was positive for HBsAg and two were positive for anti-HCV.

Conclusion

The seroprevalence of anti-B19V IgG in blood donors is 44.3%. All donor samples in this study were seronegative for IgM. Further larger studies are needed to confirm the possibility of transfusion transmission of Human parvovirus B19, to estimate clinical impacts on recipients and to justify the introduction of donor screening for Human parvovirus B19. Till then it is imperative to screen blood components at least for high risk recipients.

Keywords

Blood donors, Human parvovirus B19, transfusion transmission, immunoglobulin M, immunoglobulin G, screening, ELISA test.